

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000529**Date Inspected:** 27-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Li & Xu Lefeng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Caltrans Mockup**Summary of Items Observed:**

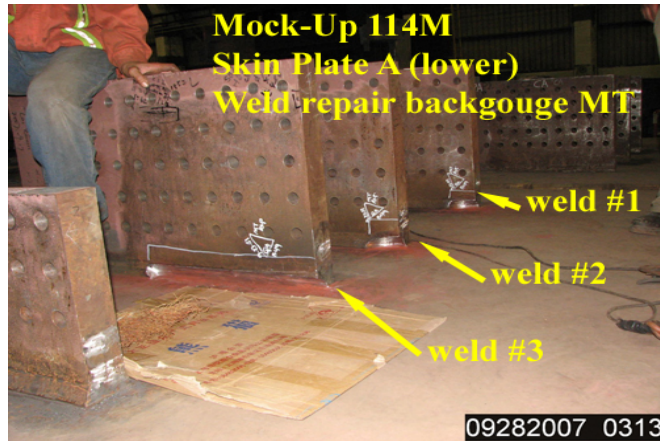
Summary Items Observed: Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M and 114M, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item	Description	WBS	Dwg No.	Status
1	Skin Plate A (lower)	NA	NA	ZPMC MT

Mock-Up 114M, Skin Plate A (lower): Caltrans QA Inspector witnessed ZPMC Quality Control technician, Mr. Zhou Dongyan perform magnetic particle test (MT) at complete joint penetration (CJP), weld repair backgouge. The locations are identified as stiffener plate mp1002, weld map number 1, 2 and 3 to skin plate MA107. The length of the weld repair excavation area measured 98 mm for weld 1, 90 mm for weld 2 and 500 mm for weld 3. The weld repairs were inspected and accepted by QC. The MT appeared to be in compliance with the project specification. Following digital picture illustrates the MT weld repair backgouges

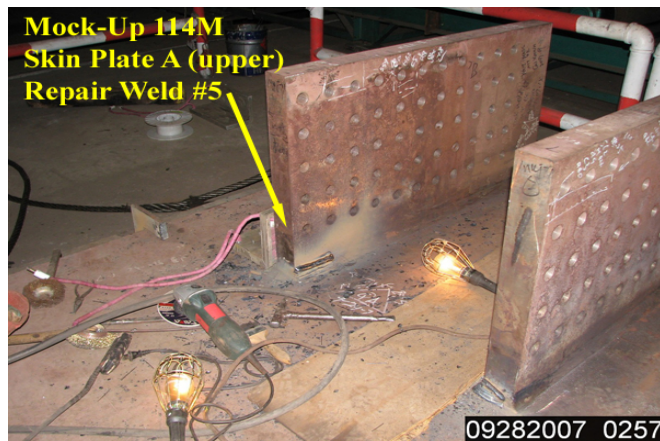
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|---|----------------------|----|----|-------------|
| 2 | Skin Plate A (upper) | NA | NA | Weld Repair |
|---|----------------------|----|----|-------------|

Mock-Up 114M, Skin Plate A (upper): Caltrans QA Inspector observed flux cored arc welding (FCAW) in progress at stiffener plate, mp1002-2, weld number 5 (weld repair) to skin plate MA106, complete joint penetration (CJP), double bevel T-joint weld. The welder is observed welding fill/cover pass weld in the horizontal position. Caltrans QA Inspector observed welder chipping and wire brushing during the interpass weld cleaning. The welder is identified as Mr. Jiang Zhou, welder stamp 040261. The welder is using welding procedure specification WPS-345-FCAW-2G (2F)-Repair, Revision 1. Caltrans QA Inspector observed ZPMC Quality Control (QC) Certified Welding Inspector (CWI) Mr. Xu Lefeng and Bureau Veritas inspector, Mr. Huang Li monitoring welding activities at the workstation. Caltrans QA Inspector measured current welding parameters at approximately 310 amps, 30.0 volts and 305 millimeters per minute (mm/min) travel speed. Preheat and interpass temperatures were verified during welding activities. The preheat temperature prior to the start of welding measures more than 160 Celsius (320 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. FCAW consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches). Following digital picture illustrates completed weld repair.



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|---|----------------------|----|----|------------------|
| 3 | Skin Plate D (lower) | NA | NA | Work In Progress |
|---|----------------------|----|----|------------------|

Mock-Up 114M, Skin Plate D (lower): Caltrans QA Inspector observed flux cored arc welding (FCAW) in progress at stiffener plate, mp1011 to skin plate MA110, partial joint penetration (PJP), double bevel T-joint. The weld number is identified as weld 7. The welder is observed welding fill pass weld in the horizontal position. Caltrans QA Inspector observed welder chipping and wire brushing during the interpass weld cleaning. The welder is identified as Mr. Jiang Zhou, welder stamp 040261. The welder is using welding procedure specification WPS-B-T-2332-TC-P5-F, Revision 0. Caltrans QA Inspector observed ZPMC Quality Control (QC) Certified Welding Inspector (CWI) Mr. Xu Lefeng

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and Bureau Veritas inspector, Mr. Huang Li monitoring welding activities at the workstation. Caltrans QA Inspector measured current welding parameters at approximately 300 amps, 32 volts and 305 millimeters per minute (mm/min) travel speed. Preheat and interpass temperatures were verified during welding activities. The preheat temperature prior to the start of welding measures more than 110 Celsius (230 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. FCAW consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches).



### Summary of Conversations:

As identified within the contents of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hasler, Mike	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer

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